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**PATENT APPLICATION**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Philippe ROBERT

Attn: PCT Branch

Application No. New U.S. National Stage of PCT/FR2004/003217

Filed: June 9, 2006

Docket No.: 128303

For: MICROCOMPONENT COMPRISING A HERMETICALLY-SEALED CAVITY  
AND A PLUG, AND METHOD OF PRODUCING ONE SUCH  
MICROCOMPONENT

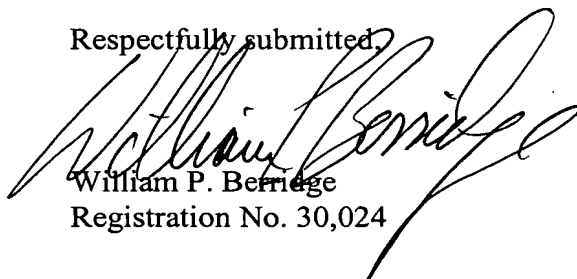
**TRANSMITTAL OF TRANSLATION OF THE ANNEXES TO THE  
INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Attached hereto is a translation of the annexes to the International Preliminary Report on Patentability (Form PCT/IPRP/409). The attached translated material replaces the claims.

Respectfully submitted,



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**Claims of the international application  
as modified (according to article 34) in the International Examination  
Phase**

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**Claims.**

1. Microcomponent comprising a hermetically-sealed microcavity (6),  
10 delineated by a cover (4) in which at least one hole (5) is formed, and, on  
the cover (4), a sealing layer (9) hermetically sealing the microcavity (6), the  
microcomponent comprising, under the sealing layer (9), a plug (8) covering  
the hole (5) and a part of the cover (4) over the periphery of the hole (5),  
microcomponent characterized in that the plug (8) is made of a material that  
15 is able to undergo creep deformation.
2. Microcomponent according to claim 1, characterized in that the material  
that is able to undergo creep deformation is a polymerized material.
- 20 3. Microcomponent according to claim 2, characterized in that the  
polymerized material is selected from photoresists and polyimide.
4. Microcomponent according to claim 1, characterized in that the material  
that is able to undergo creep deformation is a glass.  
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5. Microcomponent according to claim 4, characterized in that the glass is  
selected from phosphosilicate glasses.
6. Microcomponent according to any one of the claims 1 to 5, characterized  
30 in that the dimension of the hole (5) is smaller than 5 micrometers.

7. Microcomponent according to any one of the claims 1 to 6, characterized in that the hole (5) is arranged on the highest part of the microcavity (6).

8. Microcomponent according to any one of the claims 1 to 7, characterized in that it comprises a plurality of holes (5).

9. Microcomponent according to any one of the claims 1 to 8, characterized in that the thickness of the plug (8) is comprised between 2 and 6 micrometers.

10. Microcomponent according to any one of the claims 1 to 9, characterized in that the plug (8) comprises sloping sides (10).

11. Method for production of a hermetically-sealed microcavity (6) of a microcomponent according to any one of the claims 1 to 10, successively comprising

- deposition of a sacrificial layer (3) on a substrate (2),
- deposition of a first layer forming the cover (4), on the substrate (2) and sacrificial layer (3),
- etching, in the cover (4), of at least one hole (5) opening out onto the sacrificial layer (3),
- removal of the sacrificial layer (3), via the hole (5), so as to create the microcavity (6),
- deposition of the sealing layer (9), so as to seal the microcavity (6) hermetically,

method characterized in that it comprises comprising deposition of the plug (8) covering the hole (5) and a part of the cover (4) over the periphery of the hole (5), after the sacrificial layer (3) has been removed and before the sealing layer (9) is deposited.

12. Method according to claim 11, characterized in that, the plug (8) being made of phosphosilicate glass, the plug (8) is obtained by a method selected from the sol-gel methods and cathode sputtering.

5 13. Method according to claim 11, characterized in that the plug (8) is made of a porous material.

10 14. Method according to claim 13, characterized in that, the porous material being a photoresist, the method comprises a high temperature annealing step.

15 15. Method according to one of the claims 13 and 14, characterized in that the method comprises a pumping step of the gas contained in the microcavity (6), through the porous material, before the sealing layer (9) is deposited.